The 555 IC is configured as a monostable mutivibrator (one-shot) presenting a controlled width pulse to the system and to the solenoid driver circuits. The solenoid drivers consist of a 4N33 optical coupler and a power transistor operating in a Darlington configuration.

The latching mechanism (see figure C-1) is a rotatable round bar extending the width of the feeder. A hollow square tube is affixed to the center portion of this bar. The length of the square tube is sufficient to hold at least one and preferably two of the hinged tabs that support the shelf on the feeding side of the cabinet. Rotation of the cross bar is controlled by a handle, perpendicular to the cross bar, and external to the cabinet. The end of the handle is fitted with a short travel pin which can be inserted into the solenoid assembly to hold the handle in it's raised position. The hinged tabs allow upward rotation such that the shelf may be raised after the latching handle is positioned into the latched position. The handle provides the additional advantage of reducing the tongue weight on the releasing solenoid/latch and consequently on it's size and power consumption.

Power consumption of the mechanism, using "LS" series IC's, in a steady state condition is less than 1/2 watt. Considerably more power is required during the approximate one half second release stage but the time duration is so short that it can be essentially disregarded in daily energy calculations for solar cell size.

□ Claims:

1. The sequential selector circuit is a unique combination of inter-connected integrated circuits to convert a change in signal voltage to a pulse of defined duration and apply that pulse to each of several outputs sequentially.
2. The horse feeder cabinet is an improved and cost effective method of delivering nourishment and/or medication for animal consumption that embodies the desirable qualities outlined in the background to the invention
3. The latching system is an improved and energy efficient method of implementing the release of pre-measured quantities of nourishment to the animal.